

Cinnamon Quail-Thrush	Aug. 7, 29.
Pied Butcher-bird	Aug. 11, 28.
Owlet Nightjar	Aug. 12, 24.
Mulga Parrot	Aug. 17.
Twenty-eight (Ringnecked) Parrot	Aug. 14, 21.
Black-backed Magpie	Aug. 15, 18.
Little Corella	Aug. 20, 20, 21, 23, 23.
Spotted Harrier	Aug. 26.
Little Falcon	Aug. 26.
Bee-eater	Oct. 22.

TABLE 5 — NESTING RECORDS FROM EXMOUTH GULF, 1943.

Diamond Dove	Feb. 19, 26; March 28; Aug. 31; Sept. 11, 11.
Singing Honeyeater	Feb. 26, 27; March 8, 11, 11, 19, 28; Aug. 15, 24.
Variegated Wren	Feb. 27; March 9, 10, 12, 14, 24.
Crested Pigeon	March 8, 14, 14, 28.
Black-faced Cuckoo-Shrike	March 8, 16, 22, 24; Sept. 1.
Wedgchilli	March 8, 9, 10, 11, 11, 16, 19, 28.
Black-faced Wood-Swallow	March 8, 14, 28; Oct. 23.
Blue-and-white Wren	March 10.
Little Quail	March 11, 12; April 11.
Narrow-billed Bronze Cuckoo	March 12.
Crested Bell-bird	March 14, 16, 17, 19, 23, 24.
White-plumed Honeyeater	March 16; Sept. 1, 9, 22.
Western Shrike-Thrush	March 18, 24; April 5.
Grey-headed Honeyeater	March 21; Aug. 8, 22, 22, 24; Sept. 26, 26.
Zebra Finch	March 30; April 2; Sept. 11, 11.
Budgerygah	April 2.
Hooded Robin	April 4.
Wedge-tailed Eagle	July 4.
Twenty-eight (Ringnecked) Parrot	Aug. 8, 8.
Galah	Aug. 8, 15.
Spiny-cheeked Honeyeater	Aug. 15; Oct. 5.
Pied Oyster-catcher	Aug. 22; Sept. 4.
Brown Hawk	Aug. 25, 31.
Crow	Aug. 28; Sept. 14; Oct. 6.
White-winged Triller	Aug. 31; Sept. 4.
Red-browed Diamond-bird	Sept. 4, 6, 6, 11, 11; Oct. 17, 17.
Little Eagle	Sept. 11.
Crimson Chat	Sept. 11.
Australian Bee-eater	Sept. 11, 26.
Kestrel	Sept. 20; Oct. 12.
Red-backed Kingfisher	Oct. 14, 17, 17, 23.

TWO NEW SPECIES OF BURROWING FROGS OF THE GENUS *HELIOPORUS* GRAY FROM SOUTH-WESTERN AUSTRALIA

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In the course of an ecological survey of the genus *Helioporus* Gray two apparently unnamed frogs have been found. A review of the literature indicates that the two may have been confused with *H. eyrei* and *H. albopunctatus* through morphological similarity. However, constant behavioural, reproductive and ecological

differences exist between these forms and, so far as present data indicate, each warrants species status. A fuller description will be published elsewhere.

Helioporus psammophilus, sp.n.

Type specimen. 364/54.

Type locality. Beechina, Western Australia.

Description. Head broad, depressed, snout rounded, nostril equidistant or nearer eye than snout; papillae in anterior corner of eye usually indistinct. Tympanum distinct, oval to vertically oval. Arms weak. Fingers well developed. Toes separated by reduced web, outer shorter than third; large white compressed metatarsal tubercle or shovel on foot (Main, 1954).

Dorsal surface minutely warty; paratoid glands present but indistinct. Anal region and flanks granular. Ventrally smooth. White gland in groin.

Male spined on first finger; largest spine on metacarpophalangeal knuckle.

Colour (specimens fixed in 80% alcohol transferred and kept in 70% alcohol for three months). Dorsally, dark brown to grey, with dark grey or brown marblings; a white streak on snout. Flanks and anal regions with fine white spots; white streak anterior to angle of jaw. Ventrally white; throat of both sexes washed with brown or grey, female often white. Colour description of live material agrees with that above.

Length. Snout to cloaca. ♂ 4.77 cm. (S.D. ± 0.42) (18 specimens). ♀ 4.70 cm. (S.D. ± 0.21) (2 specimens).

Range. Strawberry (near Dongara), then south along Darling Scarp and east along south coast to beyond Denmark.

Habitat. Confined to the fine sands and white sandy clays of the Darling Scarp and foothills.

Diagnosis. Morphologically similar to *H. eyrei*, differs from that species in having no yellow on adult, and spined males. *H. eyrei* adults are significantly longer than *H. psammophilus*. Cannot be confused with adults of any other species of *Helioporus*. (As yet the females of *H. eyrei* and *H. psammophilus* cannot be separated with certainty). *H. eyrei* is sympatric with *H. psammophilus* but field observations indicate that hybrids are of very rare occurrence.

Call. Short high-pitched repetitive call resembling the noise of a motorboat or lighting plant (*H. eyrei* calls with a long low moan).

Helioporus inornatus, sp.n.

Type specimen. 155/54.

Type locality. Beechina, Western Australia.

Description. Head broad, depressed, snout rounded, nostril always nearer eye than snout; papillae in anterior corner of eye

prominent. Tympanum usually distinct, circular to vertically oval. Arms strong. Fingers well developed. Toes with rudiments of fleshy web, outer toe shorter than third; compressed white metatarsal tubercle on foot.

Dorsally minutely warty; paratoid complex present but indistinct. Anal region and flanks granular. Gland in groin usually brown. Smooth ventrally.

Colour (preserved as with *H. psammophilus*). Dorsally, dark brown, rarely marbled, occasionally grey with few grey marblings; fine white spots on flanks, concentrated in area anterior to angle of jaw; anal region white spotted. White stripe on snout usually absent. White ventrally. Both males and females with dusky brown markings on throat. Live material agrees with the above description.

Males with one, two or three black-capped spines on first finger, largest on metacarpophalangeal knuckle.

Length. Snout to cloaca. ♂ 5.44 cm. (S.D. \pm 0.30) (18 specimens). ♀ 5.98 cm. (S.D. \pm 0.39) (2 specimens).

Range. Muehea south along Darling Scarp and east along south coast to Denmark.

Habitat. Confined to the acid bogs of the Darling Scarp. Occurring with *H. eyrei*, *H. psammophilus* and *H. albopunctatus* at Beechina but ecologically separated. Burrows confined to friable black sand in the *Xanthorrhoea* zone surrounding swamps. Unlike other members of this group the complete larval life is confined to the burrow.

Diagnosis. Similar morphologically to *H. albopunctatus*. Differs in having no large white spots dorsally and occasionally possessing marblings. Preserved *H. albopunctatus* may lose the white spots. Cannot be confused with adults of other species of *Heliophorus*.

Call. "Woop Woop Woop Woop Woop" (*H. albopunctatus* has a single short high "Coo".)

Material used in these descriptions is part of the collection at the University of Western Australia to be transferred to the collection of the Western Australian Museum.

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